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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,540

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EXAMINER

THOMPSON, TIMOTHY J

ART UNIT

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2873

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,540	<b>Applicant(s)</b> BOGDAN ET AL.	
	<b>Examiner</b> TIMOTHY J. THOMPSON	<b>Art Unit</b> 2873	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-13, 15, 16 and 18-35 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-13, 15, 16, 18, 19, 25, 28-32 and 34 is/are rejected.
- 7) ☒ Claim(s) 20-24, 26, 27, 33 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11, 13, 15, 16, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura(U.S. Pat. No. 6,483,652).

Regarding claim 11, Nakamura discloses a circuit carrier(fig 2, 1); a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier(fig 1C, 2, 4); and a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element(fig 1D, 5), said lens unit including at least one lens and a lens support supporting said lens, said lens support forming an integral component of said housing of said semiconductor element(fig 1C). Regarding the lens support formed of a thermoplastic material and the housing are formed of thermosetting plastic material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the lens support formed of a thermoplastic material and the lens support housing of thermosetting plastic material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Ileshin, 125 USPQ 416.

Regarding claim 13, Nakamura discloses wherein said lens support supporting said at least one lens is integrally formed in one piece with said housing(fig 1C, 4).

Regarding claim 14, Nakamura does not disclose the lens support and said housing are formed of thermosetting plastic material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the lens support housing of thermosetting plastic material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Ileshin, 125 USPQ 416.

Regarding claim 15, Nakamura discloses wherein said lens support supporting said at least one lens is formed on said housing of said semiconductor element(fig 1C, 4).

Regarding claim 16, Nakamura does not disclose the lens support is formed onto said housing in a two-component injection process. However, the method of making the device is not germane to the patentability of the device itself therefore the claim limitation "the lens support is formed onto said housing in a two-component injection process" is not given patentable weight.

Regarding claim 30, Nakamura discloses the optical system has an optical module(fig 1C).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura(U.S. Pat. No. 6,483,652) as applied to claim 11 above, and further in view of Mitani et al.(U.S. Pat. No. 5,353,070) in view of Schottland et al.(U.S. Pat. No. 6,822,041).

Regarding claim 28, 29, Nakamura does not disclose pigments applied to said lens support for setting a black and/or dull or totally reflective finish, for preventing unwanted optical effects due to a lateral incidence of light. However, Mitani et al. discloses using a black polycarbonate for the lens barrel to eliminate undesirable reflection of light from the inner surface of the lens barrel(col 2, lines 30-45) with Schottland et al. discloses that black polycarbonate uses a pigment for coloring the polycarbonate black.(col 2, lines 1-10). It would have been obvious to one skilled in the art at the time of the invention to use a black polycarbonate for the lens barrel which uses a pigment for coloring as shown by Mitani et al. in view of Schottland et al., with the lens device of Nakamura, since as shown by Mitani et al. in view of Schottland et al. using a black polycarbonate for the lens barrel which uses a pigment for coloring is

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commonly used to eliminate undesirable reflection of light from the inner surface of the lens barrel.

Claims 12, 18, 19, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura(U.S. Pat. No. 6,483,652) as applied to claim 11 above, and further in view of Chaing(U.S. Pat. No. 6,819,508)

Regarding claim 12, 18, 19 Nakamura does not disclose wherein said lens unit includes a plurality of lenses in form of a package, wherein the lenses and at least one diaphragm are in direct contact with one another, and relative positions of said lenses and said diaphragm relative to one another are defined by a geometry of said lenses and/or of said diaphragm(fig 1). It would have been obvious to one skilled in the art at the time of the invention to use a lens unit including a plurality of lenses in form of a package, wherein the lenses and at least one diaphragm are in direct contact with one another, and relative positions of said lenses and said diaphragm relative to one another are defined by a geometry of said lenses and/or of said diaphragm as shown by Chaing, with the lens device of Nakamura, since as shown by Chaing using a lens unit including a plurality of lenses in form of a package, wherein the lenses and at least one diaphragm are in direct contact with one another, and relative positions of said lenses and said diaphragm relative to one another are defined by a geometry of said lenses and/or of said diaphragm is commonly done for better focusing the light onto the image sensor.

Regarding claim 25 Nakamura a retaining element attaching said lenses in said lens support(fig 14C, 17).

Claim 31 is rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al.(U.S. Pat. No. 6,911,648).

Regarding claim 31, Wu et al. a circuit carrier(fig 4, 286, 304); a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier(fig 4, 258); and a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element(fig 4, 40, 44), said lens unit including a plurality of mutually aligned lenses and a lens support supporting said plurality of lenses(fig 4, 40, 44), said lens support forming an integral component of said housing of said semiconductor element; said plurality of lenses snapped into said lens holder by latching engagement(fig 8).

Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsuchida et al.(U.S. Pat. No. 6,559,439).

Regarding claim 34, Tsuchida et al. discloses a circuit carrier(fig 7A, 64); a semiconductor element and a housing encasing said semiconductor element disposed on said circuit carrier(fig 7A, 62); and a lens unit disposed for projecting electromagnetic radiation onto said semiconductor element, said lens unit including a plurality of mutually aligned lenses and a lens support supporting said plurality of lenses(fig 6, 12, since it shows that a doublet can be used and only one lens is attached

to the lens holder), said lens support forming an integral component of said housing of said semiconductor element(fig 7A, 20); only one lens of said plurality of lenses being in direct contact with said lens holder(fig 6).

#### Allowable Subject Matter

Claims 20-24, 26, 27, 33, 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowable features being; only one lens of said plurality of lenses is in direct contact with said lens holder; lenses are snapped into said lens holder by latching engagement; said retaining element has a relatively hard component and a permanently elastic component formed on an area adjoining said at least one lens

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY J. THOMPSON whose telephone number is (571)272-2342. The examiner can normally be reached on 8:30 AM - 6:00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mack Ricky can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J Thompson/  
Primary Examiner, Art Unit 2873